Collecting Data for Public Works with ArcGIS Online

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City of Altamonte Springs – Background Information

- About 10 Miles North of Orlando, FL
- 9.6 Square Miles
- Population: 43,905
- 425 Employees
- GIS is under the Information Services Department
- 3 GIS Employees
- www.Altamonte.org
GIS at Altamonte Springs

- We serve all Departments – Citywide resource
  - Public Works
  - Growth Management
  - Leisure Service
  - Police
  - City Clerk
  - Finance
  - Human Resources
  - Economic Development
  - Information Services

- ELA

- Users use Web Applications to access all GIS data

- Home & Gallery Pages for our Users

- Department Page on City website for Public
Public Works

• Our Largest customer
• Our offices are in their building
• Support the following applications for them
  • Reclaim Signs
  • Sign Inventory
  • Hydrant Inspection
  • Sidewalk/Crosswalk Creator
  • Easements
  • GIS Change Requests
  • Sidewalk Repair
  • Utility Audits
  • Record Drawing Catalog – In development
Hydrant Inspections

• Workforce
• Collector
• Web App Builder
Why Inspect Fire Hydrants?

- Ensure working order for fire protection
- Warn of any pressure or flow inconsistencies within distribution network
- Remove sediment from network
Previous Workflow

• Paper form to conduct inspections

• Lacked ability to track inspection progress

• No asset management software to deliver work orders

• Data was not being fed back into GIS

• Lacked seamless migration to future software
Questions we faced...

• How can we improve data collection?
• What data do we need to capture?
• How to handle collecting/storing inspection records?
• How can we track inspected hydrants?
• What processes can we automate?
Meeting with PW staff

• Observe inspection process

• Identify data to be collected

• Identify hardware needs

• Discuss workflow for providing daily work orders

• Discuss end user environment
Why Collector?

• Ability to collect and update data in real time
• Track daily work
• Available on iOS, Android, and Windows 10* devices
• User-friendly – increases data integrity
• Ability to integrate with other Esri mobile apps

* Excluding LTSB
Data Planning

• Location Description – assign closest address

• Designate attribute domains whenever possible

• Created hydrant inspection zones
  • Calculated average time per inspection
  • Use inspection zones to create work assignments
<No value>

American Darling

Kennedy

Mueller

Waterous
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<tr>
<td>Inspector</td>
<td>Lantrez Jones</td>
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<tr>
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<td>Paint Req’d?</td>
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<td>Residual (Pitot) PSI</td>
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Sign Inventory

• Applications Used
  • Collector
  • Web App Builder Application
Data Collected

• Pole
• Sign
• Up to 5 signs on one pole
• Python Script to link poles and signs together through unique id
What we capture with the Pole

• Primary Use – Sign, Streetlight, Utility, Traffic Signal, etc.
• Material of Pole
• Shape of Pole – Rectangular, Round, T-Post, U-Channel, etc.
• Height
• Mast Arm Type
• Is there more then one sign attached?
• Install Date
• Condition
Sign Capture

• Type – Regulatory, Warning, Guide, Other
• Sign Style – Stop, Yield, Speed Limit, Lane Control, Wrong Way, etc.
• Sign Size – 30x30 Diamond, 36x36 Diamond, _x_ Rectangular, _x_ Square, etc.
• Sheeting Type – Type I – X
• Facing direction – N, S, W, E, etc.
• Condition
• Install Date
Collector – Field Staff

• On light duty
• Provided training and an AGO account
• Used iPad and Collector to capture signs and poles
• Management decided against photos
• Captured whole city within 6 months
Web App Builder Application

• Managers
  • Track Progress
  • Stay up-to-date

• Field Staff
  • See your accomplishments
  • Plan where you need to go
Sidewalks & Crosswalks

• Web App Builder Application
Developing data

• For the most part creating data as needed
• Mobility Maps are driving the need
• Had interns one summer create some of the sidewalks
• Had new employee draw in sidewalks
Record Drawing Catalog – In Development

• Web App Builder Application
• Used for a research tool
• Users will be able to research their own AOI
Improvements

- Add Record Drawing Type
  - Public
  - Private
  - Architecture
  - Miscellaneous
- Symbolize by Type
- Still building database
Conclusion

• Public Works Applications
  • Reclaim Signs
  • Sign Inventory
  • Hydrant Inspection
  • Sidewalk/Crosswalk Creator
  • Easements
  • GIS Change Requests
  • Sidewalk Repair
  • Utility Audits
  • Record Drawing Catalog – In development

• AGO & WAB acting as a catalyst

• Light duty staff is what drove the kickoff to some of these projects
Thank You

Any Questions?

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